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ABSTRACT

The purpose of this paper is to promote and improve needs assessment in distance education through the exploration of eight questions: (1) what is a needs assessment?; (2) how are needs assessments related to successful distance education?; (3) where have needs assessments been used in distance education?; (4) which approach to needs assessment should one choose?; (5) what sources and methods might one use for collecting data?; (6) what should one consider when conducting a curriculum development needs assessment?; (7) what factors influence (i.e., inhibit, facilitate) the use of needs assessment results?; and (8) what criteria can be used to evaluate a needs assessment? The scope of the paper is limited to include only interactive television (ITV), its complexities, and its criteria for educational materials. To aid further study, sample distance education needs assessments are cited. (Contains 38 references.) (Author/AEF)

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Needs Assessment: A Systematic Approach for Successful Distance Education

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Introduction

The purpose of this paper is to promote and improve needs assessment in distance education through the exploration of seven questions: (a) What is a needs assessment? (b) How are needs assessments related to successful distance education? (c) Where have needs assessments been used in distance education? (d) Which approach to needs assessment should one choose? (e) What sources and methods might one use for collecting data? (e) What should one consider when conducting a curriculum development needs assessment? (f) What factors influence (i.e., inhibit, facilitate) the use of needs assessment results? and (g) What criteria can be used to evaluate a needs assessment? To aid further study, example distance education needs assessments have been cited.

Introduction

Today we are witnessing in education major changes in the delivery of courses. "Distance education" may be delivered at the same time to different locations, at different times to the same place, or at different times to different locations.

". . . current courses taught in the traditional lecture-based format cannot be transported to a distance learning environment without modification. . . . and must incorporate instructional design features that will enhance distance learning" (Cyrs and Conway, p. ix). However, the instructor need not be the sole designer of a course offered via ITV, since Oliver points out that the creation of an ITV course should be a team approach (Willis, p. 175). New skills and expertise are needed to design a course being offered via distance learning, and fortunately many institutions have instructional designers available to assist faculty with the ITV course and materials development.

It is important to remember than this presentation/paper will limit the scope to include only interactive television (ITV), its complexities, and its criteria for educational materials.

Literature Review and Discussion

For this discussion, we will define needs assessment as "any systematic approach to setting priorities for future action" (Witkin, 1984, p. ix). Surprisingly, the terminology of needs assessment can be elusive for both novice and

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experienced "assessors" (Csete, 1996). For example, the terms "needs analysis, front-end analysis, goal analysis, task analysis and strategic planning" (Csete, 1996, p. 2) might be used as synonyms for needs assessment. Unfortunately, various distinctions have been made among these terms; the distinction reduces synonymity and perpetuates elusiveness. One such distinction can be made between needs assessment and its similar sounding counter-part needs analysis. According to Kaufman (1985), "needs assessments involve identifying and justifying gaps in results, and placing the gaps in prioritized order for attention" (p. 21). Subsequently, a needs analysis "provides a fine grained determination of where a need is coming from, and provides clues to how the need may be reduced or eliminated" (Kaufman, 1985, p. 21). While having been used in numerous settings (e.g., healthcare, government, business) needs assessment is also a systematic approach for successful distance education.

Successes

Opinions. Given the assertion that needs assessments are related to successful distance education, one is entitled to evidence for that statement. In 1990-1991, the Western Cooperative for Educational Telecommunications conducted a series of focus groups with elementary, secondary, and postsecondary education representatives experienced in telecommunication systems development. The participants concluded that "anticipating and supporting the needs of the users of technologies, programs and services has emerged as being critical to the success of distance educational enterprises" (Wagner, 1993, p. 28). With regard to rural community colleges, MacBrayne (1995) has observed that successful distance education involved a thorough assessment of learner needs. However, one could dismiss these statements as nothing more than opinions. Fortunately, fact-based evidence does exist.

Facts. An evaluation of 83 basic skills open learning centers established in England and Wales by The Adult Literacy and Basic Skills Unit (1993), "demonstrated that successful open learning had to include . . . needs assessment" (p.1). Moreover, observations made by Knirk & Christinaz (1990) at 22 U.S. training centers, identified as the having the best facilities, revealed that most centers use needs assessments in their instructional development process. However, one could argue that the use of needs assessment by successful organizations does not imply a cause-and-effect relationship. Or does it? Knott (1992) reminds us that the Learn Alaska network failed because a needs assessment was not conducted. Conversely, Kootnz's (1989), using data gathered from nine institutions with established programs, concludes that "an institutional needs assessment is . . . not a predictor of a successful DLP [distance learning program]" (p.5). To amend this debate, readers should decide for themselves whether needs assessments are related to successful distance education. Dissenters may find solace in van Enckevort's (1984) assertion "that needs research generally is not a good means for deciding whether a new institute should be or can be established"

Applications

Burton & Merrill (1977) conclude that "it is possible, at least in theory, to conduct educational needs assessments on a global level down to the level of a module within a course" (p. 28). Support for this theory is evident by the use of needs assessment in key areas of distance education: state-wide systems development (e.g., American Indian Higher Education Consortium, 1993; Evans Associates, 1993; Mississippi Center for Educational Leadership and Technology, 1995; Roberts, 1992), program establishment (e.g., Hart, 1994), and delivery system selection (e.g., Adair, Griffin & Steinhausen, 1994; Bernard & Naidu, 1990; Hanson, 1990; Hardy et al.1995; Hart, Hart & Benavides, 1992; Kundu, 1993; Mingle, 1995). Other areas include faculty and staff development (e.g., Braimoh, 1994; Kochery, 1997; Moskal et al.1997; Murphy & Terry, 1995; Pennsylvania State University, 1993; Rogers, 1991), library and information service provision (e.g., Jagannathan, 1996), and curriculum/instructional development (e.g., Curtis, 1985; Curtis & Bakshi, 1984).

Approaches

Despite the importance of needs assessments, many are poorly designed or not conducted at all (Ceste, 1996). To explain this trend, Ely (1996) points out that "the popularity of distance education and the attempt to immediately utilize new technologies often bypasses an initial analysis and needs assessment" (p. 1). Additionally, Witkin (1984) concludes "there is no one model or conceptual framework for needs assessment that has been universally accepted, and there is little empirical evidence of the superiority of one approach over another" (p.29). Moreover, existing models are so numerous and diverse that criteria for selecting an appropriate approach have been developed (Ceste, 1996). For example, Witkin (1984) has developed a model to aid in the selection of an educational needs assessment approach. The model consists of nine diagnostic questions which are keyed to a needs assessment

product locator (Witkin, 1978). However, in absence of the product locator, the following questions are still useful for evaluating needs assessment models and structuring procedures:

1. Who wants a needs assessment?
2. Why is a needs assessment wanted?
3. What should be the scope of the assessment?
4. On whose needs will you focus and at what level?
5. What kinds and amounts of data should be collected for your purposes?
6. What sources and methods might you use for data collection?
7. What are your constraints on data collection?
8. What can you invest in people, money, and time?
9. What needs assessment products meet your purposes, constraints, and resources?

(Witkin, 1984, p. 35-36).

Sources and Methods

Witkin's (1984) sixth question "What sources and methods might you use for data collection?" warrants further exploration. Witkin and Altschuld (1995) have identified two types of secondary information (i.e., information collected and archived by others) for needs assessments: social indicators and existing agency or institution records. Of these, social indicators are often the most useful for educational needs assessments (Witkin, 1984). Typical sources of educational social indicators are (a) multi-level assessment program results, (b) data from existing needs assessments, (c) related program evaluations, (d) accreditation records, (e) records of student and teacher absences, (h) demographic data, (i) district level census data, and (j) classroom observations (Witkin & Altschuld, 1995). Three basic survey methods for collecting needs assessment data include: questionnaires, interviews, and the critical incident technique. Of these, the written questionnaire is the most common method of collecting needs assessment data (Witkin & Altschuld, 1995). The following questions should be asked by assessors when designing a questionnaire:

1. How does the survey fit with other NA [needs assessment] data collection methods?
2. What kinds of questions need to be asked, based on the preassessment?
3. What types of decisions will be made from the collected data?
4. What kinds of questions or items will elicit usable data?
5. How will the data be analyzed and collated with other NA [needs assessment] data to establish priorities? (p. 134)

Curriculum Considerations

As with most fields, curriculum has both theoretical and practical aspects. Curriculum theory involves using reflection to understand course content and instruction methods (Kowalski, 1988). Subsequently, curriculum development (i.e., practice) involves making decisions about content and designing a course of study. In general, Kowalski (1988), provides four basic questions one should ask about curriculum development needs: (a) Who will be involved in the learning process? (b) How can the learners needs be defined? (c) How can experience be organized to meet learner needs? (d) What content provides the best learning value? With regard to distance education, Parker and Monson (1980) advocate four "teletechniques" (i.e., curriculum development needs) which are critical for successful teaching/learning experiences: humanization (e.g., using student names, viewing student pictures), interaction (e.g., encouraging site-to-site discussion, role playing), (e) variation (e.g., fluctuating voice, varying class activities), and evaluation (e.g., obtaining written and verbal feeback from students).

Inhibitors and Facilitators

Unfortunately, the majority of needs assessment projects that reach completion never have their results used constructively (Ceste, 1996). To abate this trend, Witkin (1984) has identified eight "inhibitors of utilization" that assessors should avoid:

(a) failure to develop a utilization plan,

(b) lack of administrative support,
(c) early departure of project director,
(d) use of political criteria to set priorities,
(e) relying solely on external consultants,
(f) failure to define project scope,
(g) failure to secure funding for implementation, and
(h) lack of project continuity because of administrative and staff turnovers.

Specifically, Ceste (1996) has identified three inhibitors which plague "novice needs assessors":

(a) ambiguous terminology,
(b) unanticipated time constraints, and
(c) unrealistic definition of project scope (i.e., either too broad or too narrow).

Conversely, Rossing (1982) has identified eight "facilitators of utilization" that assessors should embrace:

(a) understanding of real-world decision-making processes and program development politics,
(b) clear statement of project purpose,
(c) critical knowledge of needs assessment methods and processes,
(d) provision of cause-and-effect information for decision making,
(e) integration of needs assessment and program planning,
(f) involving of key stakeholders,
(g) specification of project requirements, and
(h) exercising frugality with regard to project resources.

Evaluation Criteria

Witkin and Altschuld (1995) propose that formative evaluation should be used to monitor the progress of a needs assessment, while a summative evaluation should be used to determine "How well . . . the NA [needs assessment] meet its stated goals?" (p.37). They provide seven questions one should ask during a formative evaluation: (a) Are the needs assessment tasks being performed according to the project agreement? (b) Can the needs assessment activities be modified if necessary? (c) Is the data complete? (d) Does the data adequately represent the desired needs? (e) How useful is the data for developing action plans? (f) Are the action plans executable with regard to detail, realisticness and flexibility? and (g) Are the key decision makers and stakeholders receiving adequate progress reports? For a summative evaluation, possible questions might be (a) To what extent did the assessment met its goals? (b) What were the assessments strengths and weaknesses? (c) Were there any unanticipated outcomes? and (d) What changes could be recommended for future assessments? (Witkin & Altschuld, 1995).

Conclusion

Moore and Kearsley (1996) conclude that "there cannot be within any unit, institution, or the nation at large, or even in a global network, a viable distance education program in the future that is not in some way integrated into a total system" (p. 245). Likewise productive needs assessments are dependent upon an systematic approach. The integration of needs assessment as part of a total distance education system should benefit all stakeholders (e.g., faculty, administrators, students).

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